

Serial No. 10/736,561
Submission for RCE/Response to Office action of November 28, 2006

Attorney Docket No: FS-F03218-01

REMARKS

By the present amendment, claim 1 has been amended and claim 16 has been cancelled. This amendment is based on lines 1 to 8 on page 64, lines 13 to 17 on page 67, lines 3 to 23 on page 162, lines 14 to 17 on page 167, line 19 on page 198 to line 2 on page 199, lines 3 to 4 on page 206, lines 13 to 17 on page 239, lines 5 to 11 on page 283 of the specification. Claims 1, 4-8, and 10-15 and 17-20 are currently pending in the application.

Claims 1, 4-8, and 10-20 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claim 1 has been amended to recite the range of 50 to 300 mol % which is clearly supported on page 67 of the specification. Therefore, it is respectfully requested that this rejection be withdrawn.

Claims 1, 4-8, and 10-20 were rejected under 35 U.S.C. 112, second paragraph, as being unclear in the recitation of the photosensitive silver halide. Claim 1 has been reworded to recite a photosensitive silver halide which has a silver iodide content of 90 mol% to 100 mol%. Therefore, it is respectfully requested that this rejection be withdrawn.

Claims 1, 7, 10, 14-17, and 19-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of U.S. Patent No. 6,413,710 to Shor et al.,

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U.S. Patent 4,332,889 to Siga et al., and U.S. Patent No. 5,958,668 to Matsumoto et al.

This rejection is respectfully traversed.

The present invention provides improvement in image storability (improvement of printout) by including a high silver iodide content photosensitive silver halide that is in a form of tabular grains having an average sphere-equivalent diameter that is in a specific range, as well as a silver iodide complex forming agent, an amount thereof being in a specific range relative to an amount of the photosensitive silver halide.

Shor teaches a preparation of a photosensitive silver halide formed in the presence of a hydroxytetrazaindene or an N-heterocyclic compound having a mercapto group to obtain a photothermographic emulsion having a high contrast property. In column 10, lines 18 to 24, Shor describes that the advantage of the thus-obtained photosensitive silver halide is provided by the addition of at least 10^{-5} mol/mol of silver halide, more preferably 10^{-3} to 3×10^{-3} mol/mol of silver halide.

In contrast, the silver iodide complex forming agent of the present invention is intended to substantially reduce visible light absorption caused by the photosensitive silver halide after thermal development. Claim 1 has been amended to recite the fact that the silver iodide complex forming agent reduces a transition absorption of silver

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iodide of the photothermographic material after thermal development, which resides in the vicinity of 423 nm, to 1/2 or less than that before the thermal development. The object and effect of the silver iodide complex forming agent of the present invention is different from that of the hydroxytetrazaindene or the N-heterocyclic compound of Shor, and thus the amount of the silver iodide complex forming agent of the present invention is much larger than that of the material of Shor.

Shor includes no concrete disclosure or suggestion regarding the photothermographic material having image-forming layers disposed on both sides of the support and being capable of being exposed imagewise by using an X-ray intensifying screen. It should be noted that, by having the specific silver iodide content in the image-forming layers of the specific configuration, the unexpected effects of the present invention of improved haze after thermal development, improved printout (image stability), and high sensitivity obtained by suppressing D_{\min} (fogging) to a low degree can be obtained.

The secondary reference to Siga does not cure the deficiencies of the Shor patent. Siga does not relate to a photothermographic material; therefore it is not seen that one of ordinary skill in the art would change the silver iodide content of Shor based on the disclosure of Siga.

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The reference to Matsumoto et al. does not cure the deficiencies of the combination of Shor and Siga. Although the recording material taught by Matsumoto et al. (USP 5,958,668) is described as obtaining improved shelf life (namely, storability before being used for image forming) as a result of the addition of an antifoggant, Matsumoto fails to teach or suggest any means or results related to obtaining image storability. It should be noted that the effect of improving "shelf life" referred to in Matsumoto and the effect of improving "image storability" obtained by the present invention are completely different from a technical point of view. It should also be noted that Matsumoto teaches forming silver halides by converting part of organic silver salt to silver halide. Accordingly, Matsumoto lacks the disclosure of the grain size of silver halides.

In addition, Matsumoto lacks the disclosure of silver halide grains having a tabular shape. Matsumoto teaches containing an antifoggant having a specific chemical structure, an amount thereof being in a specific range (10 to 40 mol %) relative to an amount of silver behenate. However, since Matsumoto is silent about an amount of photosensitive silver halide, the amount of the antifoggant relative to the photosensitive silver halide is unknown. Thus the combination of Shor, Siga, and Matsumoto fails to teach or suggest the present invention.

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In response to the Examiner's objection to the Declaration filed on September 5, 2006, a new Declaration is attached hereto. Please note that the Declaration clearly states that the "other halogen" which is contained in the photosensitive silver halides used in Examples 3 to 8, 10, 11, 14, and 15 (namely, the photosensitive silver halides having a silver iodide content of less than 100 mol%) shown in Table 1 in the Declaration filed on September 5, 2006 is bromine. The Declaration further states that components which are other than those specified in claim 1 of the present invention and are used in the examples shown in Table 1 in the Declaration filed on September 5, 2006 do not provide a substantial effect to the image storability measured in the present invention.

Claims 4-6 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shor and Siga and further in view of U.S. Patent No. 4,459,353 to Makasky.

Claim 18 was rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shor and Siga and further in view of U.S. Patent No. 6,093,529 to Tsuzuki et al.

Claims 7, 17, and 19-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shor and Siga and further in view of U.S. Patent

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No. 6,576,410 to Zou et al.

Claims 11-13 were rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shor and Siga and further in view of U.S. Patent No. 6,787,298 to Goto et al. and U.S. Patent No. 6,120,983 to Okada et al.

It is noted that none of these rejections includes the Matsumoto reference.

None of the tertiary references used in the above rejections remedies the deficiencies in the combination of Shor and Siga noted above. The tertiary references describe various additives to photothermographic materials. However there is no motivation to combine them with the primary references and, even if such combination were tenable, the present invention still would not be taught or suggested. Therefore it is respectfully requested that these rejections be withdrawn.

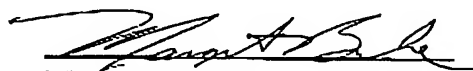
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In view of the foregoing amendments and remarks, it is respectfully submitted that all of the pending claims are in condition for allowance. Favorable action is respectfully requested.

Respectfully submitted,



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April 26, 2007